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SUCCESSFUL  
FARMING  
ON 160-ACRE FARMS  
IN CENTRAL  
INDIANA



**T**HIS BULLETIN is primarily a story of the organization and management of 160-acre farms in central Indiana and similar adjacent sections.

Corn, oats, or wheat, and clover, or clover and timothy are the principal crops. Most of the small grains are sold as cash crops, and the corn and clover (both hay and pasture) are fed to hogs, cattle, work animals, sheep, and poultry. Hogs get the largest share.

Some of the principles of good farm organization and management on 160-acre farms are illustrated by the facts brought out regarding what the successful farmers on 160-acre farms have accomplished, not in a single year but over several years.

The bulletin sets before the 160-acre farmers standards which some farmers have reached and which are believed to be within the reach of a great many other 160-acre farmers in this section and similar sections near it.

A discussion of successful farming on 80-acre farms in central Indiana has been published as Farmers' Bulletin 1421, and data are available for similar discussions of 120-acre and 240-acre farms.

# SUCCESSFUL FARMING ON 160-ACRE FARMS IN CENTRAL INDIANA

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## INCOMES MADE FROM 160-ACRE FARMS

THE more efficient 160-acre farmers in central Indiana (fig. 1) make good incomes over a period of years. Records of the year's business on 400 farms from 1910 to 1922 show that the best 10 per cent of the 160-acre farmers have made an average yearly income sufficient to cover 5 per cent interest on their capital and \$1,465 for their labor and management, and in addition have obtained from the farm an important share of the family living in the way of milk, meat, poultry, eggs, vegetables, fruit, fuel, and house rent, the value of which, at farm prices, was \$605.

Variation in economic conditions influences the incomes made. Most of the 160-acre farmers make "good money" during such periods of agricultural prosperity as was experienced from 1916 to 1919. During more normal periods, such as occurred from 1910 to 1915, about half of them make as much as 5 per cent on their capital and a wage of \$300 for their labor, in addition to the family living from the farm. Only an occasional 160-acre farmer in central Indiana does so well during periods of depression, such as started in 1920, but some farmers made money even then. For example, a 160-acre farmer in Clinton County, who had been shown by eight years' previous records to be a good farmer, averaged a farm income of nearly \$2,000 per year for the years 1920 to 1923.

The figures from seventeen 160-acre farms in Clinton County for eight years in Table 1 are representative.

TABLE 1.—Average receipts, income, and value of family living furnished by the farm from seventeen 160-acre farms in Clinton County, Ind.

	Farm receipts	Farm income	Labor income	Per cent on capital	Value of family living furnished by farm
1910.....	\$2,564	\$1,581	\$286	4.7	\$317
1913.....	2,828	1,902	421	5.2	332
1914.....	2,558	1,455	—38	3.6	307
1915.....	2,966	1,772	224	4.5	327
1916.....	3,723	2,449	828	6.4	406
1917.....	4,398	2,739	1,093	7.2	492
1918.....	5,735	3,578	1,617	7.5	665
1919.....	5,802	3,239	1,336	6.5	638
Average of 8 years.....	3,849	2,357	737	5.7	438
Average of the 4 most successful farms.....	5,265	3,145	1,332	7.2	622
Average of the 4 least successful farms.....	2,961	1,845	313	4.5	358
Average of the most successful farm.....	6,696	3,448	1,632	8.5	737
Average of the least successful farm.....	2,446	1,513	59	3.7	327

NOTE.—Average capital, 1910 and 1913 to 1915: Real estate, \$26,203; other, \$2,882; total, \$29,085. 1916 to 1919: Real estate, \$31,559; other, \$4,096; total, \$35,655.

*Receipts* are the value of all the products sold from the farm, plus any increased value of livestock due to growth or increase in numbers and plus the value of any increased quantity of feed at the end of the year over the beginning of the year.

The *farm income* is the receipts less the expenses (the expenses including all costs except any charges for the farmer's own labor



FIG. 1.—The shaded portion of the map shows the part of Indiana to which the discussion in this bulletin particularly applies

and for interest on the capital), and represents the combined returns for the use of the capital and the farmer's labor, exclusive of the family living furnished by the farm.

The *labor income* is the farm income less 5 per cent interest on the capital. It represents the pay the farmer gets for his year's labor, exclusive of any of the family living furnished by the farm.

The *per cent on capital* is the farm income less the value of the farmer's own labor and expressed as per cent of the capital. It represents the returns to capital after allowing the farmer's estimate of the value of his own labor.

The *value of the family living furnished by the farm* represents the meat, milk, eggs, fruit, vegetables, etc., set aside from the farm production for family use, and the fuel and house rent furnished by the farm.

#### VARIATIONS IN INCOMES FROM 160-ACRE FARMS

Only a moderate return for the capital and farmer's labor is realized from the average 160-acre farm, but there is a wide variation in the profits made from different farms. From the most successful 160-acre farm in the Clinton County group for which figures are presented in Table 1, there was an average farm income of \$3,448 per year for eight years, as compared with \$1,513 per year from the least successful farm.

A comparison of the more successful with the less successful 160-acre farms in a community shows some of the reasons for the greater success of some farmers.

This bulletin points out the systems of farming and some of the more important practices followed on successful 160-acre farms in contrast to those on less successful ones. The discussion is based on the results from all of the 160-acre farms in central Indiana from which records have been obtained, and is frequently illustrated with facts from the four most successful and the four least successful 160-acre farms in the Clinton County area.

#### FARMING SYSTEMS

No one type of farming is always the most profitable. At least three fairly distinct types are followed to advantage on 160-acre farms in central Indiana and similar adjacent areas. Since much the same crops are grown on all the 160-acre farms the types may be classified according to the livestock as in Table 2.

TABLE 2.—*Farming systems common on 160-acre farms in central Indiana*

	The hog system		The hog and beef cattle feeding system		The hog and dairy system	
	Range	More common	Range	More common	Range	More common
	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>	<i>Head</i>
Brood sows.....	5 to 25	15	5 to 15	10	3 to 15	7
Boars.....	1 to 2	1	1	1	0 to 1	1
Pigs raised.....	45 to 225	135	45 to 135	90	27 to 135	63
Dairy cows.....	2 to 6	4	2 to 6	4	7 to 25	15
Young cattle.....	0 to 4	2	0 to 4	2	3 to 9	6
Bull.....	0 to 1	0	0 to 1	0	0 to 1	1
OR—						
Dual-purpose cows.....	3 to 6	5	3 to 12	6	-----	-----
Young cattle.....	0 to 8	2	0 to 8	2	-----	-----
Bull.....	0 to 1	1	0 to 1	1	-----	-----
Feeding cattle.....	-----	-----	10 to 40	20	-----	-----
Sheep.....	0 to 60	0	0 to 60	0	0 to 60	0
Work animals.....	4 to 8	6	4 to 8	6	4 to 8	6
Hens.....	75 to 300	125	75 to 300	125	75 to 300	125

The prevalence of level to gently rolling land (fig. 2) that produces good crops of corn is largely responsible for making hogs an important part of the farm business on nearly all of the farms, and the "hog" system is most common on the successful 160-acre farms. The "hog and beef cattle feeding" system and the "hog and dairy" system are followed to advantage on some farms.

#### THE HOG SYSTEM

The hog system is discussed in detail, while each of the others are discussed only in so far as they vary from it.

#### CROP ROTATION

In the hog system of farming there are from 5 to 20 acres in woods or other permanent pasture (fig. 3), about 3 acres in farmstead, and 3 acres in lanes, roads, etc., leaving from 134 to 149 acres for crops



FIG. 2.—Typical topography in central Indiana

on most 160-acre farms in central Indiana. The most common rotation is one of three years. Corn, wheat, oats, or rye; clover, or clover and timothy are the principal crops. (See fig. 4.)

Other less common but good rotations are (1) corn, corn, wheat, oats or rye; clover, or clover and timothy, and (2) corn, corn, soy beans, wheat, clover or clover and timothy.

On thin soils a four-year rotation—corn, wheat, oats or rye, and two years of clover and timothy; or, corn, soy beans, wheat, and clover or clover and timothy—is favorable to maintenance of soil fertility, but neither this nor the four-year rotation of corn, oats, wheat and clover followed by some farmers, furnishes as much corn as is desirable with the amount of livestock giving best returns.

The four-year rotation of corn, corn, wheat, oats or rye; clover or clover and timothy is objected to by some farmers on the grounds

that two years in corn is too hard on the land. However, most farmers who follow this rotation find that the two years of corn following clover sod on strong land does not reduce yields, especially when the corn is "hogged off" at least one of the years and when the stalks are plowed under and not burned. On land not naturally strong this rotation is not generally advisable.

The five-year rotation of corn, corn, soy beans, wheat, clover or clover and timothy has recently gained favor on some of the successful farms for the following reasons: (1) 40 per cent of the crop land is devoted to corn without endangering fertility, as 40 per cent of the land is in legumes; (2) wheat following soy beans usually yields higher than when following other crops; (3) soy beans furnish home-grown protein feed for hogs and cattle. The elasticity in disposing of the soy-bean crop either as hay or grain feed or as a cash crop aids



FIG. 3.—A woods pasture of 5 to 20 acres is common on most of the 160-acre farms in central Indiana. It is an asset to the farm, even though remote from the farmstead, as it furnishes shade and pasture for the livestock as well as the family supply of firewood.

in adjusting the total feed production to the feed requirements of the livestock.

On the four most successful farms in the Clinton County group there was an average of 55 acres in corn, 42 acres in small grains, and 40 acres in clover and timothy per farm (Table 3). Thus the percentage of land in corn was more than a strictly three-year rotation affords. Most of the successful men living on productive farms want more than a third of their crop land in corn and plan to get it either by having two years of corn in succession in the rotation or by having a field outside of the regular rotation in which corn or corn and soy beans are planted year after year for "hogging off." Failures of clover, with the practice of putting the land on which the clover failed back to corn, also increased the acreages in corn.



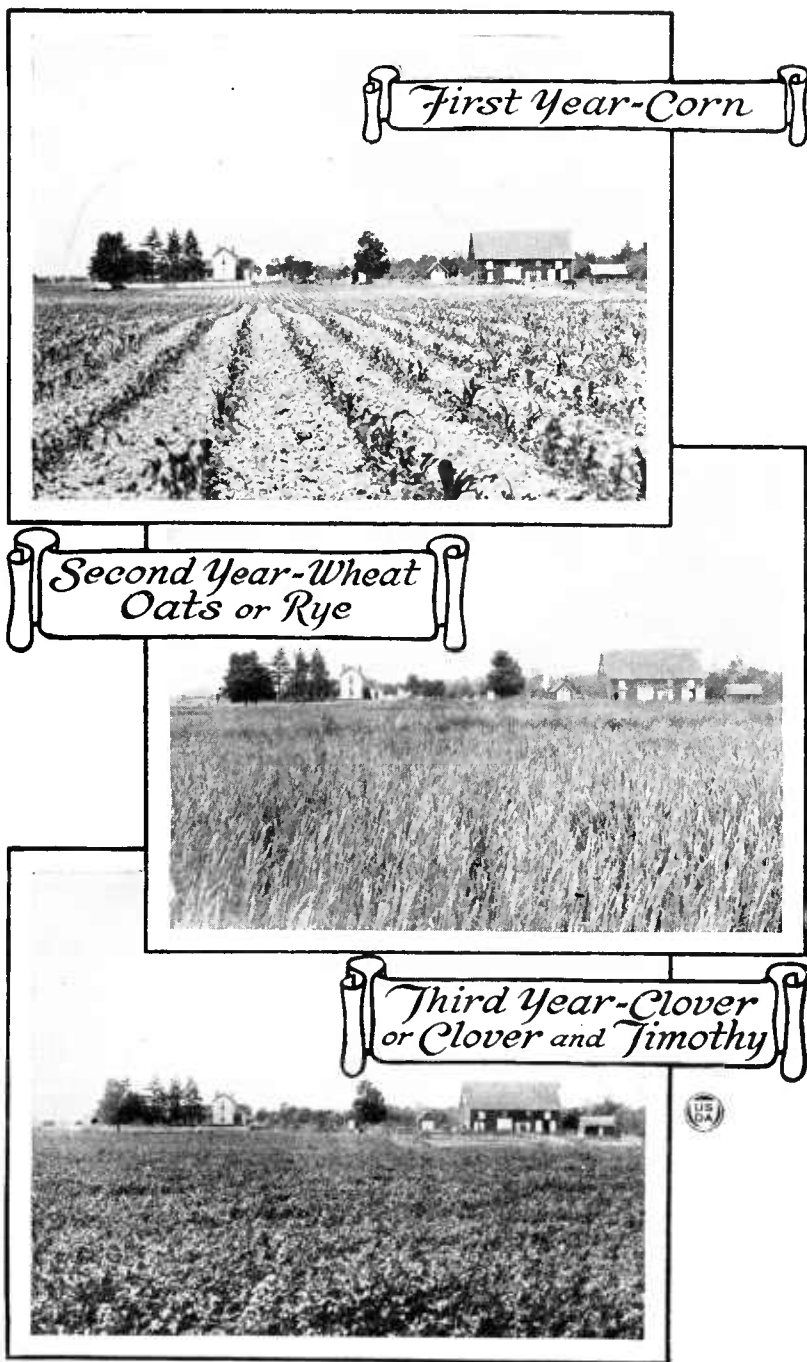


FIG. 4.—The usual cropping system on 160-acre farms in central Indiana

TABLE 3.—*Acres in crops on the 4 most successful and the 4 least successful 160-acre farms in the Clinton County study—8-year average*

	Corn	Small grains	Clover, or clover and timothy	Total rotation land		Corn	Small grains	Clover, or clover and timothy	Total rotation land
	Acres	Acres	Acres	Acres		Acres	Acres	Acres	Acres
Farm 1.....	50	40	40	130	Farm 5.....	57	41	33	131
Farm 2.....	57	39	35	131	Farm 6.....	52	43	51	146
Farm 3.....	51	48	47	146	Farm 7.....	54	46	33	133
Farm 4.....	61	43	39	143	Farm 8.....	55	47	35	137
Average of 4 most successful farms	55	42	40	137	Average of 4 least successful farms	55	44	38	137

#### UNIFORM CROP SYSTEM DESIRABLE

The men on the more successful farms varied less, annually, from their regular system of cropping than those on the less successful farms. For example, the figures for eight years in Clinton County show an average yearly variation of 14 per cent in acreage of corn on the four most successful 160-acre farms and 21 per cent on the four least successful. There were correspondingly greater variations in the acreages of other crops on the poorer paying farms. Differences in yields due to varying seasons cause fluctuations in total production of crops from year to year; and when this fluctuation is increased by variations in acreages it becomes increasingly difficult to make the feed production on a farm fit in with the livestock kept. The livestock must be varied greatly from year to year or considerable more feed must be bought or sold one year than another. Variations of this kind, not made to meet changes in economic conditions, are not desirable.

Haphazard variations in farm organization with no relation to changes in prices of the things farmers sell and buy is very undesirable, and must not be confused with changes intelligently planned to meet variation in the economic situation. For those farmers who keep informed regarding trends in supply and demand with regard to the products affecting their farming business a somewhat flexible system is desirable permitting the production of products for which the demand will be strongest. But unless changes are made on the basis of the best economic information available, they more often result in damage than in benefit.

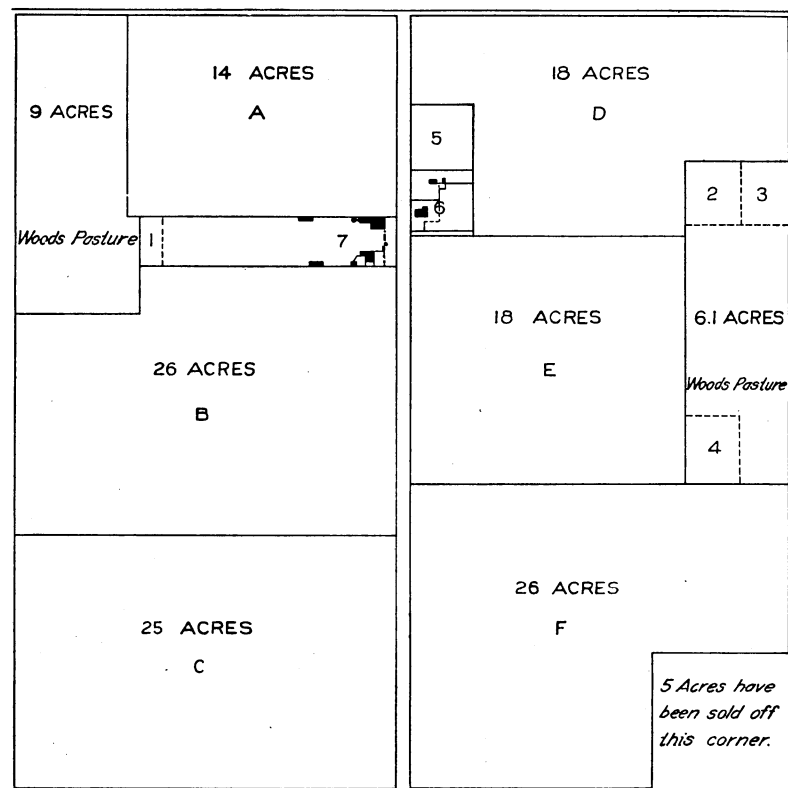
#### FARM LAYOUTS

Failure of clover is a common cause of fluctuation in acreage of each crop from year to year, but the division of the farm into fields also has an influence.

The most successful farmers have their farms laid out in such a way that it is possible to follow a fairly definite system and obtain nearly uniform acreages of each crop from year to year. The best laid-out farms are those with as many fields of equal size as there are years in the rotation or with fields which can be combined in such a way as to divide the crop acreage into as many equal parts as there

are years in the crop rotation. Thus, three fields, each of 45 to 50 acres, accommodate a three-year rotation to best advantage on 160-acre farms; and four fields, each of from 33 to 37 acres, fit a four-year rotation.

In addition to making it possible to follow a more uniform farming system, good farm layouts economize in labor requirements and in amount of fencing. Large fields, from one and one-half to three times as long as wide, are most economical.



- 1, 2, 3, 4 = Temporary hog feeding lots  
 5 Orchard  
 6 House, garden, poultry yard, etc.  
 7 Barn, crib, pasture lot, etc.

FIG. 5.—The layout of a successful 160-acre farm in central Indiana

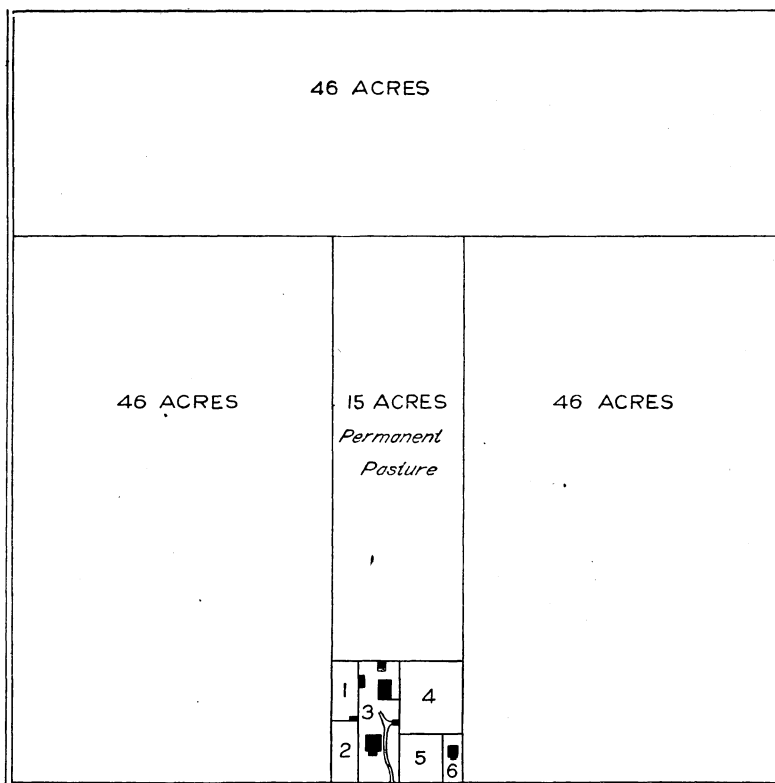
The layout of one of the most successful 160-acre farms in the Clinton County group is shown in Figure 5 and a suggestive layout for a three-year rotation in Figure 6.

The field arrangement in Figure 5 allows practically the same acreages of corn, small grains, clover and timothy each year.

In 1919 fields A and F were in corn. In the fall, field F was sown to wheat, and the following spring field A to oats, a seeding of clover and timothy going on each field. Thus, both fields were in small

grain in 1920 and in clover and timothy in 1921, when field F was pastured and field A cut for hay. In 1922 both fields were again in corn.

For the 1920 crops, the farmer had the choice of putting the smaller field in oats and the larger one in wheat, of putting the smaller field in wheat and the larger one in oats, of putting both fields in wheat, or of putting both in oats. He put the smaller field in oats and the larger in wheat. In 1921 he had the choice of cut-



- 1= Orchard
- 2 Garden and small fruits
- 3 House, barn, crib, machine shop, garage
- 4 Blue grass pasture
- 5 Garden
- 6 Tenant house

FIG. 6.—A suggested layout for a three-year rotation on 160-acre farms in central Indiana

ting the smaller field for hay and pasturing the larger one, of pasturing the smaller field and cutting the larger for hay, of pasturing both fields, or of cutting both for hay: He cut the smaller field for hay and pastured the larger one.

In 1920, when fields A and F were in small grains, fields B and D were in corn; in 1921, when fields A and F were in clover and timothy, fields C and E were in corn.

Soy beans have been planted with the corn in the smaller fields since 1920. From 4 to 6 acres of the crop have been put into the silo and the rest "hogged off." The crop from the larger cornfields has been husked from the standing stalk.

In Figure 6 the rotation fields are of equal size and well shaped for economical operation. Each field is accessible from the permanent pasture even though any field be temporarily divided, as for "hogging off" corn or separating the rotation pasture from the hay land. Fencing is reduced to a minimum.

#### CROP YIELDS

Acreage of each crop on the profitable and unprofitable farms is much the same, but there is a difference in the yields. High crop yields alone do not insure good incomes, yet the average yields on successful farms are usually higher than on unsuccessful farms. Table 4 shows the eight-year average yields on each of the four most successful and least successful Clinton County farms.

TABLE 4.—Yields per acre on the four most successful and the four least successful 160-acre farms in the Clinton County study—eight-year average

	Corn	Oats	Wheat	Hay		Corn	Oats	Wheat	Hay
	<i>Bush.</i>	<i>Bush.</i>	<i>Bush.</i>	<i>Tons.</i>		<i>Bush.</i>	<i>Bush.</i>	<i>Bush.</i>	<i>Tons.</i>
Farm 1.....	48	44	18 (1)	1.5	Farm 5.....	46	41	17 (3)	1.1 (7)
Farm 2.....	48	41 (7)	21 (4)	1.5	Farm 6.....	48	48	16 (3)	1.4
Farm 3.....	53	40 (7)	17 (6)	1.5	Farm 7.....	43	40	20 (1)	1.2 (6)
Farm 4.....	51	43 (5)	20 (7)	1.3	Farm 8.....	39	33 (7)	18 (4)	1.1 (5)
Average of the four most successful farms..	50	42	19	1.4	Average of the four least successful farms..	44	40	18	1.2

<sup>1</sup> When a crop was not grown every year on a farm, the number of years it was grown is indicated by the figure in parentheses.

The men who obtain consistently high yields usually follow what are generally recognized as good practices in connection with crop production. Keeping considerable livestock, conserving and returning the manure to the soil, using commercial fertilizer on at least the wheat crop, tile draining the land, liming the soil where necessary, using good seed of varieties and strains adapted to local conditions, treating seed to prevent diseases, and proper cultivation are a few of the methods used to obtain profitable yields.

#### WHAT LIVESTOCK IS DESIRABLE

On the four most successful 160-acre Clinton County farms, there was an average of 15 brood sows on hand in the spring from which 133 hogs were raised per year, 6 cows from which 5 calves were produced per year and usually vealed or kept to replenish the herd, and 125 hens, in addition to the work animals. This is approximately 78 per cent more livestock than on the four least successful farms. (See Table 5.)

TABLE 5.—Livestock on the four most successful and the four least successful 160-acre farms in the Clinton County study—eight-year average

	Cows	Sows	Ewes	Hens		Cows	Sows	Ewes	Hens
	<i>No.</i>	<i>No.</i>	<i>No.</i>	<i>No.</i>		<i>No.</i>	<i>No.</i>	<i>No.</i>	<i>No.</i>
Farm 1.....	7	20		200	Farm 5.....	3	8		70
Farm 2.....	5	9	(1)	100	Farm 6.....	8	9		120
Farm 3.....	7	14		150	Farm 7.....	5	12		85
Farm 4.....	4	15		50	Farm 8.....	3	6		85
Average of four most successful farms.....	6	15	(1)	125	Average of four least successful farms.....	5	9		90

<sup>1</sup> Ten ewes and a ram were kept on farm 2 for four years. On the average 10 lambs a year were raised for three years, and 109 pounds of wool a year were sold for four years.

One of the four most profitable farms had enough livestock to consume an average of 1,251 bushels of purchased corn per year in addition to the 2,400 bushels grown on the farm. (Fig. 7) The average amount of corn consumed yearly was 2,762 bushels on the four most successful farms and 2,015 bushels on the four least successful. The greater amount of livestock helped the profits on the most successful farms by increasing the volume of business, by providing profitable employment when labor could not otherwise be fully utilized, by helping maintain soil fertility economically, and by consuming unmarketable roughages and by-products.

It must not be assumed that the amount of livestock can be increased indefinitely and a corresponding increase in income result. An amount of livestock in excess of the maximum necessary to utilize by-product labor and feed must necessarily be produced on higher-priced labor and feed and the profits therefore be reduced, unless a special market is available.



FIG. 7.—Hogs almost ready for market on a successful 160-acre farm

Although a fairly uniform livestock system is desirable, there are probably greater opportunities to vary the livestock organization to advantage than the cropping system, for livestock prices vary in much more definite cycles than do most crop prices, the crop prices depending more on weather and climatic conditions. With a knowledge of the livestock cycles and the situation at any given time, a farm operator can often vary his livestock program to advantage; but, without such information, he is likely to let favorable prices influence him to increase in some enterprise when he should be decreasing, or he lets low prices discourage him when he should be getting products ready to sell at the higher price that follows.

#### LIVESTOCK PRODUCTION IS IMPORTANT

Usually no other single factor has a greater influence on comparative profits, from one 160-acre farm to another in this area, than the livestock returns per head. An average of 160 pounds of butterfat per cow was produced on the four most successful Clinton County farms, and 93 pounds on the four least successful; a calf per cow every 14 months as compared with one every 15 months on the least successful farms; 8.9 pigs per sow per year as compared with 6.6

on the least successful farms; 63 eggs per hen per year as compared with 58 on the least successful farms, and 1.8 chickens were raised for each hen kept on the most successful farms as compared with 1.2 on the least successful farms. The total livestock production per farm on the successful and unsuccessful farms in the Clinton County group is given in Table 6.

TABLE 6.—*Livestock production on the four most successful and the four least successful 160-acre farms in the Clinton County study—eight-year average*

	Calves raised	Butter-fat equivalent produced	Hogs raised	Hogs bought (sows, boars, or shototes for feeding)	Chickens sold and used by family	Eggs sold and used by family
	<i>Number</i>	<i>Pounds</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Dozens</i>
Farm 1.....	5	946	158	30	297	890
Farm 2.....	4	651	117	3	164	659
Farm 3.....	6	1,300	132	1	306	793
Farm 4.....	4	465	125	6	138	289
Average of four most successful farms.....	5	840	133	10	226	658
Farm 5.....	3	280	41	12	125	468
Farm 6.....	7	500	63	1	81	533
Farm 7.....	4	686	90	8	142	404
Farm 8.....	3	400	42	1	82	342
Average of four least successful farms.....	4	466	59	5	108	437

#### HOG MANAGEMENT

**Feeding.**—Feeding practices are responsible for an important part of the difference in livestock returns. Successful farmers recognize that most farm feeds are deficient in protein and therefore purchase protein concentrates to supplement the home-grown feeds and make a more nearly balanced ration. During the eight years the four most successful Clinton County farmers purchased an average of 1,400 pounds of tankage per farm a year as compared with less than 100 pounds purchased by the least successful farmers, and 3,568 pounds of mill feed as compared with 510 pounds by the least successful farmers. During recent years some successful farmers reduced their bill for purchased concentrates by raising soy beans for hog feed, especially for “hogging down” with corn. When a mineral mixture of 10 parts of wood ashes or finely pulverized limestone, 10 parts of 16 per cent acid phosphate, and 1 part common salt is fed in a self-feeder (fig. 8), in addition to soy beans and corn, the soy beans prove practically as effective as tankage or skim milk as a source of protein.

Skim milk is used to a limited extent on some of the farms to supply protein to balance the corn, but in the hog system, where but few cows are kept, the limited amount of skim milk available can usually be fed to the poultry to better advantage.

With the feed rations recommended by Purdue University, in which spring shototes on full pasture receive 5 per cent by weight and fall shototes 10 per cent of the grain ration in the form of tankage, there would be required, on a farm with 15 sows and 135 hogs grown to 200 pounds in weight, approximately 9,700 pounds of tankage or its equivalent in skim milk or soybeans. In substituting soy beans

or skim milk,  $1\frac{1}{2}$  to 2 pounds of soy-bean meal or 13 pounds of skim milk may be considered equal to 1 pound of tankage.

**Vaccination.**—The successful 160-acre farmers give more attention to hog vaccination than the less successful ones. One of the four most successful men in Clinton County lost 130 hogs from cholera the first year for which records are available. After losing 35 the

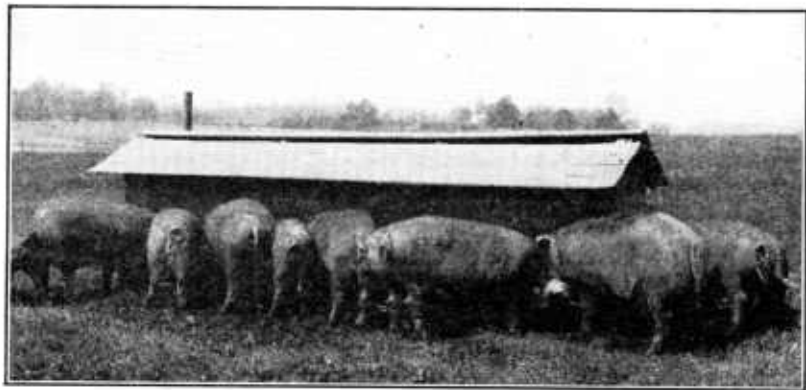


FIG. 8.—Self feeders are used on many of the successful 160-acre farms in central Indiana

next year, he had the remaining 82 head vaccinated and saved them all. He has vaccinated every year since. Another of the four most successful farmers has his hogs vaccinated every year regardless of whether there is cholera in the community. The other two vaccinate only when their hogs are threatened with cholera. The four least successful farmers spent only about one-third as much for vaccination as the four most successful farmers and lost more hogs. One of them had no hogs vaccinated during the eight years.



FIG. 9.—Successful 160-acre "hog" farmers usually prefer individual hog houses to the centralized house. They avoid crowding, may be readily shifted from one part of the farm to another to lessen danger of infection, are often made by the farmers themselves, and cost less than the centralized house

**Farrowing.**—On a few of the successful farms, gilts are used almost entirely for raising pigs in order to eliminate dockage when marketed; but records show that on most of the more successful 160-acre farms two litters are raised per year from older sows, one litter coming about March and the other about September. The majority of the successful men prefer individual hog houses for farrowing quarters (fig. 9),



as they can be moved from field to field and thus lessen danger of infection. For the same reason the number of permanent hog lots is limited on most of the successful 160-acre farms, the farmers preferring to shift the hogs from field to field as much as possible. However, a few have small fields in which rotated crops are grown for hog forage.

**Marketing.**—Over a period of years the hogs on the successful farms have been marketed at weights around 200 pounds or more, although when hog prices are unfavorable as compared with corn prices there is a tendency to market at lighter weights.

#### POULTRY MANAGEMENT

Poultry has contributed average sales of \$223 per year per farm on the four most successful farms in the Clinton County group in addition to furnishing the families \$86 worth of eggs and meat.

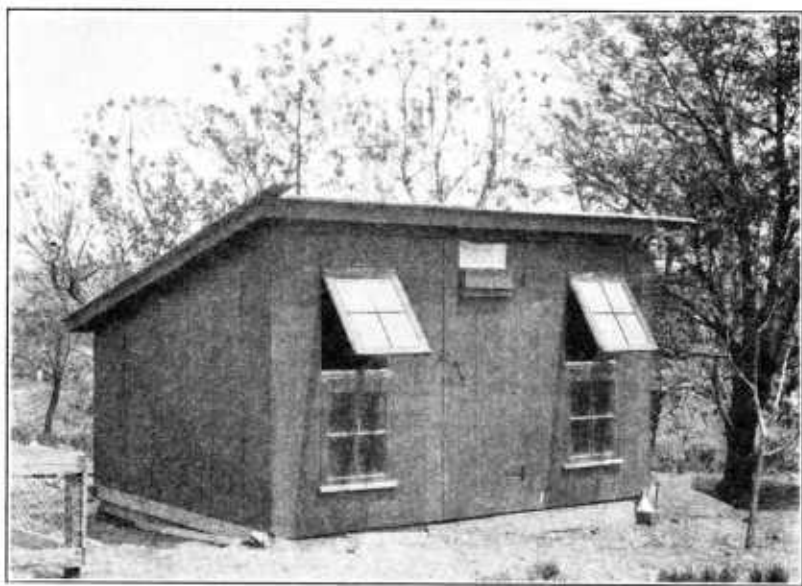


FIG. 10.—Stove-heated colony brooder houses are becoming more common on successful 160-acre farms in central Indiana

In recent years increased attention is given to the poultry enterprise and better practices are followed.

Most of the successful farmers use incubators rather than hens for hatching, although a few buy baby chicks, and stove-heated colony brooder houses are becoming more popular (Figure 10 and Purdue Extension Bulletin No. 52). These farmers realize the value of having chicks hatched in March or April to produce pullets for egg production the following winter and to permit getting the broilers on the early market when prices are favorable. Laying houses have improved in recent years. Some of the houses are well lighted, well ventilated, free from drafts, easy to clean and disinfect, and convenient for chores (Figure 11 and Purdue Experiment Station Circular No. 98).

Many of the successful farmers closely follow the feeding practices recommended by Purdue University, giving in self-feeders a mash of 50 parts bran, 50 parts middlings, and 30 parts 60 per cent tankage, and feeding a grain mixture of 100 parts corn, 100 parts wheat, and 50 parts oats. The grain is fed at the rate of 3 pounds of grain to 1 pound of mash from the time the hens are housed until January, when the proportion of grain to mash is gradually reduced until about equal quantities are fed by September. (See Purdue Experiment Station Circular No. 101.)

#### MILK COWS

Sales of dairy products have contributed an average of \$209 per farm per year on the four most successful farms in the Clinton County group, in addition to the production of calves and approxi-

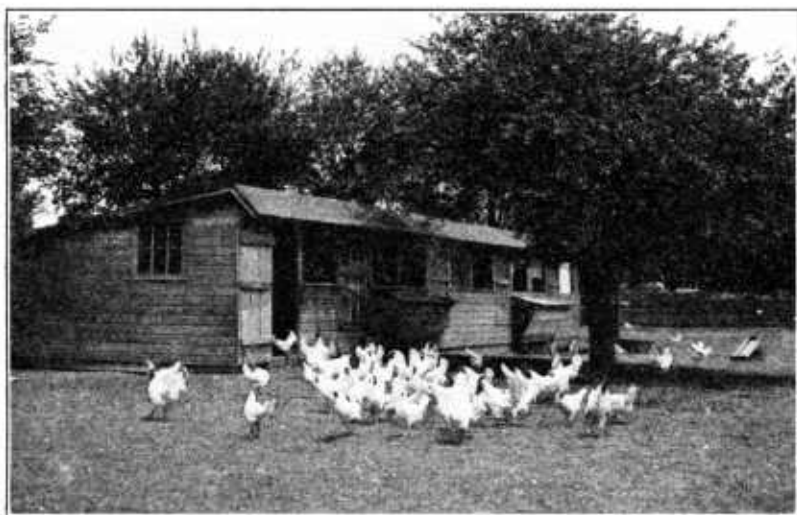


FIG. 11.—Some of the poultry houses on 160-acre farms are well lighted, well ventilated, free from drafts, easy to clean and disinfect, and convenient for chores. This house, 10 feet by 20 feet, accommodates 200 hens

mately 600 gallons of milk, or its equivalent in butter and cream, and a quarter of beef for family consumption.

From three to six milk cows, varying from the distinct dairy type to a dual-purpose type, have been kept on most of the successful farms where the hog type of farming is followed. The period of agricultural depression beginning in 1920 marked a considerable increase in the number of milk cows.

On many of the successful 160-acre farms, particularly where cattle are not kept in large enough numbers to form either an important beef or dairy enterprise, good big cows are kept that will produce from 100 to 150 pounds of butterfat per year and at the same time produce a high-class veal calf or a calf that will grow into a medium steer. The larger percentage are grade cows, although the so-called dual-purpose breeds find a place in this system. The owners of these

farms justify the acceptance of this low production on the ground that such cows produce plenty of milk for home use and some surplus for sale, and that their calves are more valuable for veal than dairy calves and the cows are of greater market value for meat.

This system shades into the hog system and differs from it only in that some of the hogs in the hog system have been replaced by grade beef cows.

#### SHEEP

There were about one-third of a million sheep on the 98,000 farms included within the shaded portion of the map in Figure 1, but they enter into the organization of only a small percentage of the farms in central Indiana. They have been profitable on a number of the

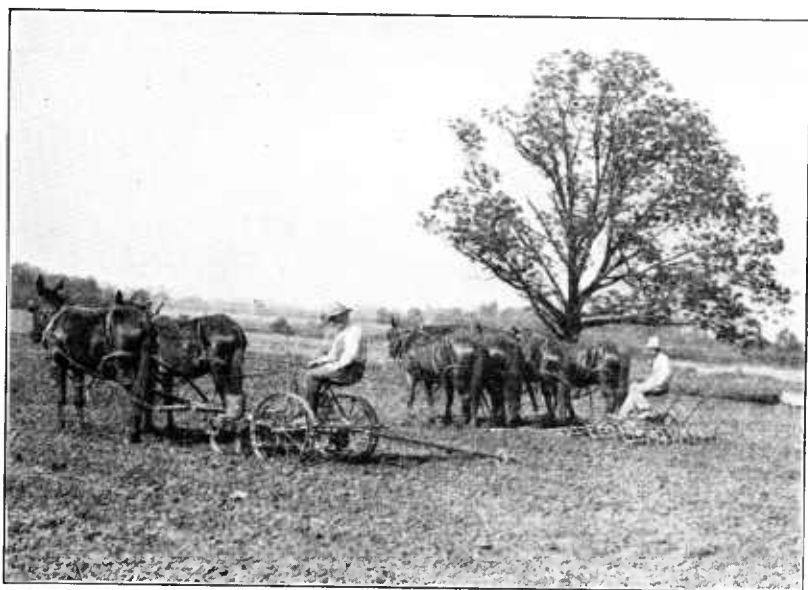


FIG. 12.—The work animals for a 160-acre farm in central Indiana

farms, and with the present prices of mutton and wool it would seem that some sheep might well be worked into the organization of more of the farms, especially on farms where hogs do not essentially predominate.

#### WORK ANIMALS

From six to eight horses are usually found on the 160-acre farms, six being the most common number on the more successful farms (fig. 12). With six 1,400 to 1,500 pound horses any of the ordinary machinery required on 160 acres can be used in such combinations that two outfits of three or less horses each or one outfit of four horses and one of two can be kept going during the rush season. Some of the good farmers justify the keeping of more than six horses by raising colts to sell or to replace the older horses (fig. 13).

#### TRACTOR

Successful men vary in opinion as to the economy of the tractor on 160-acre farms. With the ordinary system of farming in central Indiana, it is probably economical for a man to use a tractor if he is a good mechanic, if he likes to work with a tractor, and if he does not have to depend on different hired laborers to operate it. By using a tractor he can reduce the number of work animals to four. Men who are not naturally "tractor minded" and like horses, or who have to depend on transient hired help to operate the tractor, will do better with the horses. (See U. S. Department of Agriculture Farmers' Bulletins 1295 to 1300.)

#### MAN LABOR

The 160-acre farms are of the "two-man" size. The average of the four most successful farms in Clinton County required 25 months of man labor during the year. This labor is usually supplied by the

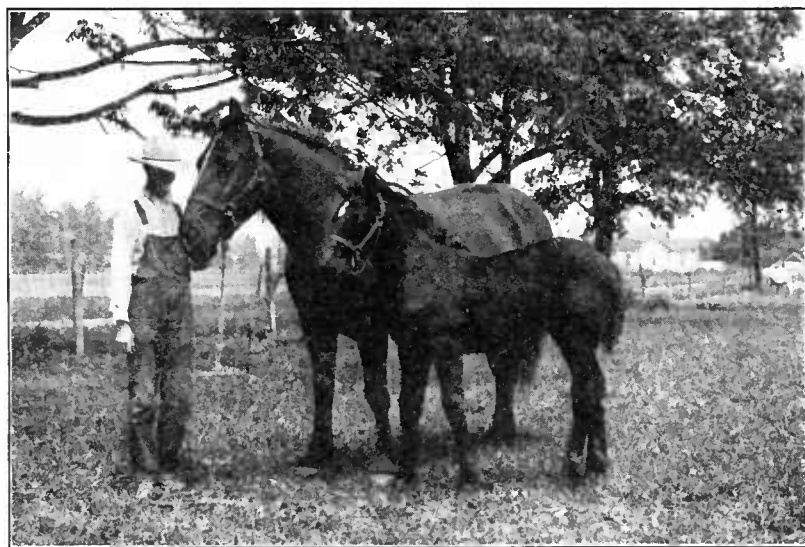


FIG. 13.—A work animal and a brood mare. This successful 160-acre farm furnishes its own work animals and \$1,445 worth of horses were old in eight years

operator with a hired man, by the father and one or more sons, by two brothers, or by partners, with occasional day labor hired in grain harvesting, haying, or corn husking. This size of business permits the employment of a man the year around, and this practice usually results in more satisfactory help than when employment can be offered only a part of the year (fig. 14).

#### MACHINERY

The most successful farms are equipped with better machinery of a higher type than the least successful ones. Farms as large as 160 acres can afford better machinery than smaller farms, and even with the same kind of machinery the cost per acre is lessened. A binder, for example, will last almost as many years when cutting the grain on

a 160-acre farm as on an 80-acre farm. However, it is the judgment of the successful farmers that a 160-acre farm may easily be over-equipped.

The machinery equipment for a 160-acre farm requires careful consideration. The list in Table 7 has been prepared after considering the machinery actually used on 160-acre farms, and interviewing several of the more successful 160-acre farmers.



FIG. 14.—An attractive tenant house helps to get and keep hired labor

TABLE 7.—Suggested list of machinery for 160-acre farms in central Indiana

Number	Kind	Size	Horses required
1	Walking plow.....	14 or 16 inches.....	3
1	Sulky plow <sup>1</sup> .....	do.....	2 to 4
1	Tandem disk.....	7 feet.....	4 to 6
1	Spike-tooth harrow.....	3-section.....	2 to 4
1	Tandem packer.....	8 feet.....	2 to 4
1	Corn planter (with fertilizer and soy-bean attachment).....	2-row.....	2
1	Corn cultivator.....	do.....	3
1	do.....	1-row.....	2
1	Wheat drill (with fertilizer attachment).....		2 to 4
1	Wheat drill if land in corn is seeded to wheat (with fertilizer attachment).....		1
1	Grain binder.....	6 or 8 feet.....	3 to 4
2	Wagons.....		2
1	Mower.....	5 or 6 feet.....	2
1	Hay rake.....	10 or 12 feet.....	2
1	Hay loader.....		3
1	Hay tedder.....		2
1	Manure spreader.....	50 to 75 bushels.....	2 to 3
1	Walking cultivator.....		1
6	Work harnesses.....		
	Gasoline engine.....	1½ to 6 horsepower.....	
	Corn sheller—hand.....		
	Incubator.....		
	Cream separator.....		
	Miscellaneous small tools.....		

<sup>1</sup> If the soil is of a type that is easily worked, a 14-inch gang plow is preferable to the sulky.

In connection with this list, it should be stated that some farmers are using such items of equipment as corn binders and silage cutters jointly with neighbors. The machines are owned jointly or one farm owns one machine and another farm owns another, thus reducing the capital-requirement, depreciation, and repair figures for each farm. Arrangements of this sort are economical when the machines can be used on more than one farm without loss of the crops on any of the farms. Some 160-acre farmers have occasionally bought second-hand machinery that they would not have been justified in buying new. Proper sheltering of machinery is an important consideration in reducing depreciation. (Fig. 15).

Successful 160-acre farmers as a rule have an automobile which has sometimes replaced a horse and buggy and driving harness. It often accounts for greater efficiency in the operation of the farm and adds to the pleasure of the farmer and his family.

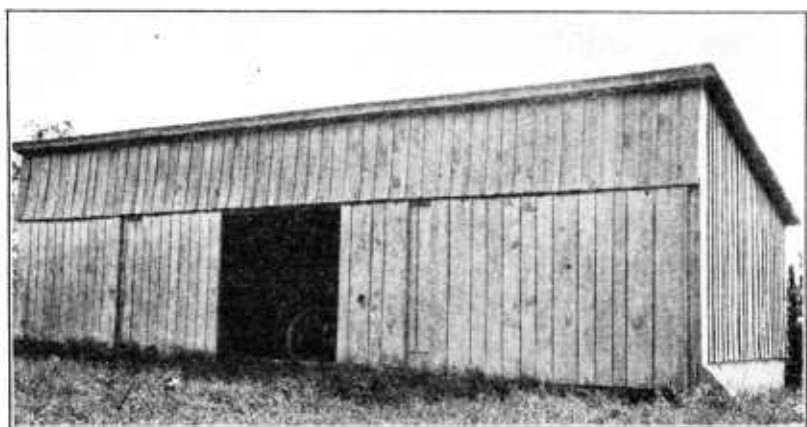


FIG. 15.—This type of building used for sheltering machinery when not in use is not expensive and makes the machinery last longer

#### IMPROVEMENTS

A large number of 160-acre farms were made this size by the union of two or more smaller farms or by the division of a larger farm, after many of the buildings were already erected. Frequently in such cases the buildings are either inadequate or too expensive for the farm. Buildings erected by a former owner of the farm for a particular system of farming often do not suit the system followed by the present owner. Buildings represent approximately 9 per cent of the capital on 160-acre farms. Repair and depreciation charges, an important item of expense, average \$87 per year in the Clinton County area. Adequacy of buildings and convenience of their arrangement has an important influence on the time required for chores, the returns that can be secured from livestock, and the selling value of the farm. Buildings, therefore, deserve careful consideration.

On most of the successful 160-acre farms there is not an over-capitalization in buildings. Fancy buildings are not necessary for good profits. Too great an investment in buildings results in excessive interest, depreciation, and repair costs. The most desirable

buildings are simple, economically constructed, well-planned and neat in appearance. (See figs. 10, 11, 14, 15, 16, 17, 18, 20.)

There are usually from 1,000 to 1,300 rods of permanent fence on the average 160-acre farm in central Indiana. Some of this is rail but most of it is woven wire. The interest, depreciation, and repairs on this item amounting ordinarily to \$1 to \$1.50 per acre per year, must be borne by the crops and livestock. This expense can be reduced by good farm layout. A few men are reducing the amount of fencing by using permanent fences only around the outside of the farm and around permanent pasture, and stretching temporary fence around rotation pasture. This practice prevents the use of livestock in turning into profits the aftergrowths and unharvested crops on the various fields, and is therefore of doubtful economy. Tem-

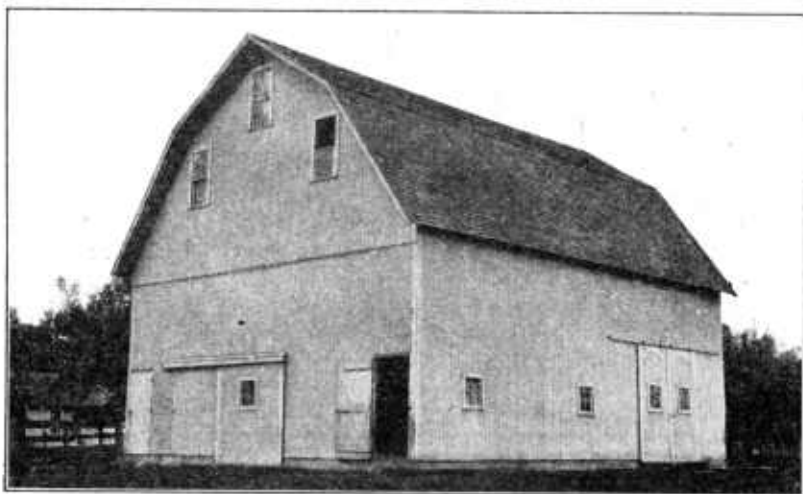


Fig. 16.—A good barn on a 160-acre "hog" farm. It is 60 feet by 40 feet and 20 feet to the eaves. There is room for 6 horses, 4 to 6 cows, and some young cattle. It has mow space for 20 or more tons of hay and bins for 1,000 or more bushels of grain.

porary fence is often used to advantage, however, in fencing off a part of a field of corn for "hogging off" or in separating a clover field for hay and for pasture.

Most of the land in central Indiana is already well tiled. Although tiling considerably increases the cost per acre of land it is a profitable investment.

#### THE HOG AND BEEF CATTLE FEEDING SYSTEM

An important variation from the hog system on successful 160-acre farms is the system that includes the feeding of beef cattle usually in quantities sufficient to make either one or two carloads (20 or 40 head). Under this system, cattle feeding has the same advantage as dairying in regard to consumption of larger quantities of roughages in proportion to corn than is possible with straight hog farming.

Sometimes at least a part of the cattle are raised on the farm where they are fed, but the more common practice on the successful 160-acre hog and beef cattle farms is to purchase the cattle from stockyards. Occasionally they are picked up from neighboring farms, but this practice does not provide cattle of uniform type. The length of time the cattle may be most economically fed depends on their age, weight, and condition, and the economic conditions prevailing at the time. Cattle 2 years old or over that carry considerable flesh are usually fed more profitably for a short period of not over 90 days than for a longer period. The most-successful practice with young cattle of good quality usually is to feed them until they are "finished." From 2 to 2½ pounds of protein supplement, such as oil meal, cottonseed meal, or soy-bean meal, per 1,000 pounds live weight, are given in addition to silage, hay, and corn during the time the cattle are on full feed. Hogs are usually run behind the cattle, especially if the corn fed is not ground or shelled and older cattle are being fed.

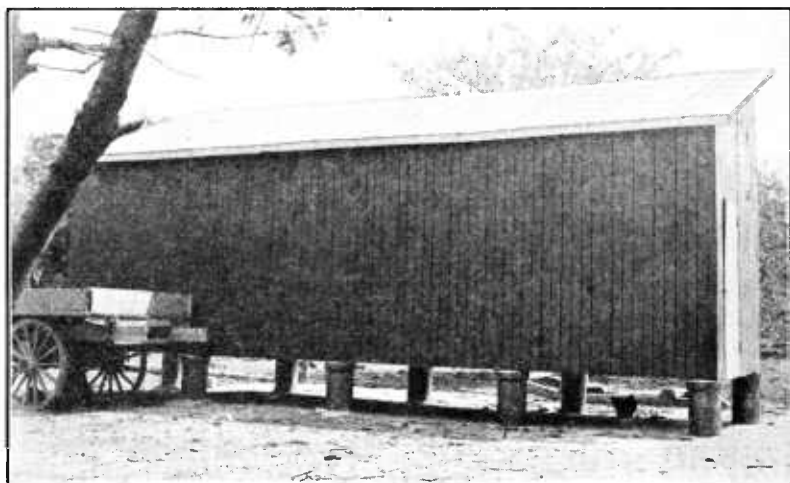


FIG. 17.—The corner crib on one of the successful 160-acre farms in Clinton County

Some men follow a hog and beef system in which beef cows are kept to raise calves for sale at various ages, either as breeding stock or as feeders, but do not feed out cattle in quantities.

Crop rotation, machinery, work animals, and labor requirements for the hog and beef cattle system do not differ materially from those for the hog system. An open shed with cement floor, an inclosed lot, feed racks and bunks, and usually a silo (fig. 18), with the consequent ownership of a whole or a part of a corn binder and ensilage cutter, are the most important equipment needed in addition to that on hog farms.

#### THE HOG AND DAIRY SYSTEM

In the hog and dairy system much the same rotation crops are grown by the successful men, with a tendency to decrease the amount of timothy seeding in the clover and occasionally to grow alfalfa on



account of the value of straight legume hay as a dairy feed. Successful dairying on a large scale on 160-acre farms in the past has usually been either the result of a fairly large amount of rough or rolling land more suited to pasture than crop production or of a particularly good market for dairy products, as a retail trade in town or city. From 1920 to 1925, however, there has been some expansion in dairying on 160-acre farms, as on farms of other sizes in central Indiana (fig. 19).

On dairy farms where cream rather than whole milk is sold, the skim milk available greatly reduces the amount of tankage necessary to buy for hogs and poultry. With the smaller number of hogs and increased number of cattle, there is a somewhat better adjustment of feed to livestock requirements, as the dairy cows are not as heavy consumers of corn in proportion to roughage as hogs; and in the hog system, when sufficient legume is given to maintain fertility economically, there is usually an abundance of roughage as compared with corn.

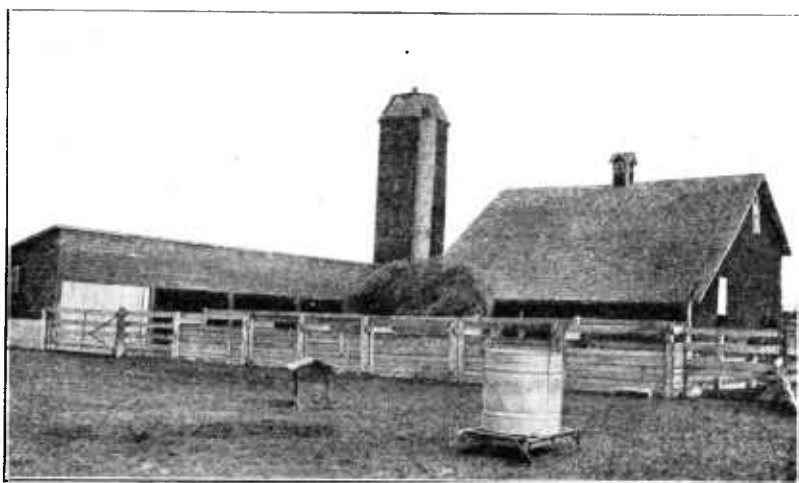


FIG. 18.—A good type of cattle-feeding plant

The feed available on the ordinary 160-acre farms in central Indiana forms the foundation for a good dairy ration. A silo is not usually considered economical with the small number of cows on the farms following the hog system, but is advisable where 10 or more cows are kept. With the good clover hay available on many of these farms, the grain ration recommended by Purdue University consisting of 400 parts by weight of ground corn, 200 parts ground oats or bran, and 100 parts linseed meal or soy-bean meal, fed at the rate of 1 pound per day for each 3 pounds of Jersey and Guernsey milk, and for each 4 pounds of Holstein and Ayrshire milk, produces good results for winter feeding. When the dry roughage fed is part legume hay and part timothy hay or corn stalks, a grain mixture of 400 parts corn, 300 parts ground oats or bran, and 200 parts linseed meal or soy-bean meal produces better results. Many of the successful farmers feed no grain when the cows are on the good pasture of these farms at favorable seasons, although with the higher-producing

cows and particularly when pasture is scarce or dry about half of the winter grain ration is fed and at times some legume hay is given.

Some of the more successful dairymen are feeding silage at the rate of approximately 30 pounds per day and good legume hay at the rate of about 10 pounds per 1,000 pounds of cow in addition to the grain ration.

The machinery and work animals on the successful 160-acre dairy farms differ very little from that already described for the hog farms. When there is a silo, most men own a corn binder or a share in one and usually have a share in a silage cutter.

Because man labor constitutes a relatively higher proportion of the cost of producing dairy products than of producing hogs, the dairy system requires some more man labor. With hand milking, ordinarily as much time is spent on a good dairy cow in central Indiana during a year as is required to care for two brood sows and their litters or to



FIG. 19.—A herd of good dairy cows

raise 5 acres of corn. But, while milking cuts down the time available for field work in summer, it makes a market for winter labor and two men can operate a hog and dairy farm with 10 or more cows and almost as many sows as under the hog system.

## FARM ACCOUNTS

Many of the successful farmers recognize the fact that simple records are becoming almost a necessity in the successful operation of their farm business. Farm records are valuable in many ways, but their most important use is in helping the farmer discover the weaknesses in his farm business.

One farmer in central Indiana found, the first year he kept accounts, that his farm compared favorably with other farms in his community in size of business, crop yields, use of labor, and other important factors, except in returns from his livestock. He was getting only



FIG. 20.—The homes of two of the successful 160-acre farms in central Indiana.

\$1.01 from his livestock for each \$1 worth of feed, which was not enough to pay for other costs such as labor, shelter, interest, and taxes. The record showed that he did not have protein to make a balanced feed for his livestock. He had been feeding his hogs almost entirely on corn. The next year he bought tankage and other protein concentrates to make a balanced ration. His returns from livestock and consequently his labor income showed a decided increase that year. He has declared he will continue to keep records as "long as he has two eyes." Any 160-acre farmer who keeps simple accounts will be able to compare his results with the standards given in Table 8 in the back of this bulletin and then determine where his attention is needed in improving his business.

An inventory of all livestock, feeds, machinery, and other property taken once a year, together with a financial record of the farm receipts and expenses during the year, is considered the most useful account. The farm account book issued by the agricultural extension department of Purdue University, which provides for accounts of this kind, is used by many of the successful men. Similar practical account books can be obtained at cost from the agricultural colleges in most of the States.

## SUCCESSFUL FARMING AND GOOD LIVING

Financially successful 160-acre farmers are generally wise spenders. Some have comfortable and attractive houses with modern conveniences, including electric lights, running water, bathrooms, and furnaces (fig. 20). Some of the houses with electricity or other power use it for separating cream and making butter, for laundry work, or for house cleaning. It is the opinion of these owners that the money expended for such improvements is a wise investment. Many of the more successful farmers, from the financial standpoint, are the most interested in those things that result in a higher standard of living in the farm homes. Their boys and girls are participating in club work and are given educational opportunities.

## STANDARDS OF ORGANIZATION AND MANAGEMENT

Table 8, showing the standards in farm organization and management under the hog system, the hog and cattle feeding system, and the hog and dairy system is given for the guidance of 160-acre farmers in central Indiana and similar adjacent areas. It is fully realized that conditions differ from farm to farm and that no two farms are exactly alike in every respect. The standards should be interpreted as subject to modifications to meet the conditions existing on each farm. Some modifications have been discussed. To farmers on 160-acre farms who maintain standards as high as those in Table 8, over a period of several years, success is almost certain.

TABLE 8.—Standards of organization and management for successful farming on 160-acre farms

		Hog system	Hog and cattle feeding system	Hog and dairy system	Your own system
<b>Land:</b>					
Farmstead, roads, lanes, etc.	acres	7	7	7	
Permanent pasture	do.	15	15	15	
Rotation land	do.	138	138	138	
Corn for grain	do.	46	39	41	
Corn for silage	do.		7	5	
Wheat	do.	23	23	23	
Oats	do.	23	23	23	
Hay, clover or mixed	do.	13	12	15	
Rotation pasture	do.	33	34	31	
<b>Yields per acre:</b>					
Corn for grain	bushels	50	50	50	
Corn for silage	tons		10	10	
Wheat	bushels	20	20	20	
Oats	do.	45	45	45	
Hay, clover or mixed	tons	1.5	1.5	1.5	
<b>Crop production:</b>					
Corn for grain	bushels	2,300	1,950	2,050	
Corn for silage	tons		70	50	
Wheat	bushels	460	460	460	
Oats	do.	1,035	1,035	1,035	
Hay, clover or mixed	tons	20	18	23	
<b>Livestock:</b>					
Sows	number	15	10	8	
Boars	do.	1		1	
Dairy cows	do.	4	4	15	
Young cattle	do.	2	2	6	
Bull	do.			1	
Or—					
Dual-purpose cows	do.	5	5		
Young cattle	do.	2	2		
Bull	do.	1	1		
Feeding cattle	do.		20		
Work animals	do.		6		
Hens	do.	200	200	200	
<b>Livestock production per animal:</b>					
Sow, pigs to 225 pounds weight	do.	9	9	9	
Dairy cows—					
Whole milk	pounds	6,000	6,000	6,000	
Butterfat	do.	275	275	275	
Calves	number	.8	.8	.8	
Dual-purpose cows—					
Whole milk	pounds	4,000	4,000		
Butterfat	do.	170	170		
Calves	number	.8	.8		
Feeding cattle, gain in 120 days	pounds		275		
Hens, eggs	dozen	9.5	9.5	9.5	
<b>Livestock production:</b>					
Sows, pigs to 225 pounds weight	number	135	90	72	
Dairy cows—					
Whole milk	pounds	24,000	24,000	90,000	
Butterfat	do.	1,100	1,100	4,125	
Calves	number	3	3	12	
Or—					
Dual-purpose cows—					
Whole milk	pounds	20,000	20,000		
Butterfat	do.	850	850		
Calves	number	4	4		
Feeding cattle, gain in 120 days	pounds		5,500		
Hens, eggs	dozen	1,900	1,900	1,900	
Chicks raised	number	300	300	300	
Colts raised	do.	1	1	1	
<b>Approximate feed requirements:</b>					
Sows and boar—					
Corn (25 bushels per head)	bushels	400	275	225	
Tankage (100 pounds per head)	pounds	1,600	1,100	900	
Hogs, from weaning to 225 pounds weight—					
Corn (15 bushels per head)	bushels	2,025	1,350	1,080	
Tankage	pounds	8,100	5,400	1,828	
Skim milk (substituted for tankage, 13 pounds skim milk equals 1 pound tankage)	pounds			32,400	
Dairy bull—					
Corn	bushels			12	
Oats	do.			10	
Oil meal or cottonseed meal	pounds			170	
Hay (2 tons without silage or 1 ton with silage)	tons			1	
Silage	do.			3	

TABLE 8.—Standards of organization and management for successful farming on 160-acre farms—Continued

	Hog system	Hog and cattle feeding system	Hog and dairy system	Your own system
Approximate feed requirements—Continued.				
Dairy cows—				
Corn (20 bushels per head).....bushels	80	80	300	
Oats (18 bushels per head).....do	72	72	270	
Oil meal or cottonseed meal (281 pounds per head).....pounds	1, 125	1, 125	4, 215	
Hay (1.5 tons per head without silage or 0.6 ton with silage).....tons	6	2.4	9	
Silage.....do		10.8	40.5	
Young dairy cattle—				
Veal calves, to 6 weeks old—				
Corn (20 pounds per head).....bushels	.7	.7	3.2	
Oats (10 pounds per head).....do	.6	.6	3	
Bran (10 pounds per head).....pounds	20	20	90	
Oil meal (5 pounds per head).....do	10	10	45	
Whole milk (125 pounds per head).....do	250	250	1, 125	
Skim milk (400 pounds per head).....do	800	800	3, 600	
Hay (30 pounds per head).....tons	.03	.03	.14	
Heifers, to 1 year old—				
Corn (8 bushels per head).....bushels	8	8	24	
Oats (7 bushels per head).....do	7	7	21	
Oil meal or cotton seed meal (100 pounds per head).....pounds	100	100	300	
Whole milk (200 pounds per head).....do	200	200	600	
Skim milk (2,000 pounds per head).....do	2, 000	2, 000	6, 000	
Hay (0.7 ton per head without silage or 0.5 ton with silage).....tons	.7	.5	1.5	
Silage.....do		.5	1.5	
Heifers, from 1 to 2 years old—				
Corn (6 bushels per head).....bushels	6	6	18	
Oats (5 bushels per head).....do	5	5	15	
Oil meal or cottonseed meal.....pounds	85	85	255	
Hay (1.5 tons per head without silage or 1 ton with silage).....tons	1.5	1.0	3	
Silage (1.5 tons per head).....do		1.5	4.5	
Dual-purpose bull—				
Corn.....bushels	8	8		
Oats.....do	6	6		
Oil meal or cottonseed meal.....pounds	100	100		
Hay (1.5 tons without silage or 1 ton with silage).....tons	1.5	1		
Silage.....do		1.5		
Dual-purpose cows—				
Corn (8 bushels per head).....bushels	40	40		
Oats (6 bushels per head).....do	30	30		
Oil meal or cottonseed meal (100 pounds per head).....pounds	500	500		
Hay (1.5 tons per head without silage or 0.6 ton with silage).....tons	7.5	3		
Silage.....do		13.5		
Young dual-purpose cattle—				
Veal calves, to 6 weeks old—				
Corn (20 pounds per head).....bushels	1	1		
Oats (10 pounds per head).....do	1	1		
Bran (10 pounds per head).....pounds	30	30		
Oil meal (5 pounds per head).....do	15	15		
Whole milk (125 pounds per head).....do	375	375		
Skim milk (400 pounds per head).....do	1, 200	1, 200		
Hay (30 pounds per head).....tons	.04	.04		
Calves, to 1 year old—				
Corn (8 bushels per head).....bushels	8	8		
Oats (7 bushels per head).....do	7	7		
Oil meal or cottonseed meal (100 pounds per head).....pounds	100	100		
Whole milk (200 pounds per head).....do	200	200		
Skim milk (2,000 pounds per head).....do	2, 000	2, 000		
Hay (0.7 ton per head without silage or 0.5 ton with silage).....tons	.7	.5		
Silage (0.5 ton per head).....do		.5		
Yearlings, from 1 to 2 years old—				
Corn (6 bushels per head).....bushels	6	6		
Oats (5 bushels per head).....do	5	5		
Oil meal or cottonseed meal (85 pounds per head).....pounds	85	85		
Hay (1.5 tons per head without silage or 1 ton with silage).....tons	1.5	1		
Silage (1.5 tons per head).....do		1.5		

TABLE 8.—Standards of organization and management for successful farming on 160-acre farms—Continued

	Hog system	Hog and cattle feeding system	Hog and dairy system	Your own system
Approximate feed requirements—Continued.				
Feeding cattle—from 850 to 1,125 pounds weight—				
Corn (22½ bushels per head in 120 days).....	bushels	450		
Cottonseed meal (143 pounds per head in 120 days) tons.....		1.43		
Hay (0.2 ton per head with silage).....	do	4		
Silage (2.6 tons per head in 120 days).....	do	52		
Work animals—				
Corn (43 bushels per head).....	bushels	258	258	
Oats (25 bushels per head).....	do	150	150	
Hay (1 ton per head).....	tons	6	6	
Fodder or straw (500 pounds per head).....	do	1.5	1.5	
Colts, to 1 year old—				
Corn.....	bushels	6	6	
Oats.....	do	11	11	
Bran.....	pounds	350	350	
Hay.....	tons	.6	.6	
Fodder or straw.....	do	.2	.2	
Colts, from 1 to 2 years old—				
Corn.....	bushels	9	9	
Oats.....	do	16	16	
Bran.....	pounds	500	500	
Hay.....	tons	.9	.9	
Fodder or straw.....	do	.2	.2	
Colts, 2 to 3 years old—				
Corn.....	bushels	9	9	
Oats.....	do	31	31	
Bran.....	pounds	500	500	
Hay.....	tons	1	1	
Fodder or straw.....	do	.2	.2	
Hens—				
Corn (43 bushels per 100 head).....	bushels	86	86	
Oats (38 bushels per 100 head).....	do	76	76	
Wheat (40 bushels per 100 head).....	do	80	80	
Bran (1,200 pounds per 100 head).....	pounds	2,400	2,400	
Shorts (1,200 pounds per 100 head).....	do	2,400	2,400	
Skim milk.....	do	3,900	3,900	
Tankage (substitute for skim milk, 1 pound tankage equals 13 pounds skim milk).....	do	1,546	1,546	
Young chickens—				
Corn (10 bushels per 100 head).....	bushels	30	30	
Bran (220 pounds per 100 head).....	pounds	660	660	
Shorts (220 pounds per 100 head).....	do	660	660	
Skim milk (1,800 pounds per 100 head).....	do	5,400	5,400	
Summary of feed for all livestock:				
Corn.....	bushels	2,886	2,536	2,060
Silage.....	tons		69	50
Wheat.....	bushels	80	80	80
Oats.....	do	343	333	603
Hay.....	tons	20	18	23
Whole milk.....	pounds	575	575	1,725
Skim milk.....	do	12,500	12,500	71,400
Tankage.....	do	11,246	8,046	2,728
Oil meal and cottonseed meal.....	do	800	3,660	4,925
Bran and shorts.....	do	7,500	7,500	7,560
Probable products for sale:				
Corn.....	bushels			
Wheat.....	do	345	345	345
Oats.....	do	630	640	370
Hay.....	tons			
Boar.....	number	1	1	1
Sows.....	do	5	3	3
Other hogs, at 225 pounds weight.....	do	123	80	62
Cows.....	do	1	1	3
Veal calves.....	do	2	2	9
Fat cattle at 1,125 pounds weight.....	do		20	
Whole milk.....	pounds	14,700	14,700	84,050
Or—				
Butter fat.....	do	625	625	2,092
Hens.....	number	70	70	70
Broilers.....	do	60	60	60
Eggs.....	dozen	1,670	1,670	1,670
Horses.....	number	1	1	1
Products for family use:				
Orchard, garden, etc.....	acres	1.5	1.5	1.5
Hogs.....	number	7	7	7
Beef.....	"quarters"	1	1	1
Dairy products, butterfat equivalent.....	pounds	200	200	200
Chickens.....	number	100	100	100
Eggs.....	dozen	165	165	165
Firewood.....	cords	11	11	11

TABLE 8.—Standards of organization and management for successful farming on 160-acre farms—Continued

	Hog system	Hog and cattle feeding system	Hog and dairy system	Your own system
Probable items of expense:				
Feed purchased—				
Corn.....bushels.....	600	586		
Oil meal and cottonseed meal.....pounds.....	800	3,660	4,925	
Bran and shorts.....do.....	7,500	7,500	7,560	
Tankage.....do.....	11,246	8,046	2,728	
Salt.....barrels.....	2	2	2	
Labor, hired man, son, or partner.....months.....	12	12	12	
Extra, family or hired.....do.....	1	1	2	
Fertilizer (200 pounds per acre on wheat).....pounds.....	4,600	4,600	4,600	
Livestock—				
Boar.....number.....	1	1	1	
Feeding steers (at 850 pounds weight).....do.....		20		
Seeds purchased—				
Clover (1 bushel to 8 acres).....bushels.....	6	6	6	
Timothy (1 bushel to 6 acres).....do.....	8	8	8	
Soy beans (1 bushel to 12 acres planted with corn).....do.....	4	4	4	
Vaccination for hog cholera (one treatment for each animal).....number.....	151	101	81	
Machine work hired—				
Threshing wheat.....bushels.....	460	460	460	
Threshing oats.....do.....	1,035	1,035	1,035	
Feed grinding.....do.....				
Baling.....do.....				
Repairs—				
Houses.....per cent of value.....	1	1	1	
Other buildings.....do.....	1	1	1	
Fences.....do.....				
Machinery.....do.....	2.5	2.5	2.5	
Depreciation—				
Houses.....do.....	1.5	1.5	1.5	
Other buildings.....do.....	2	2	2	
Machinery.....do.....	9	9	9	
Insurance.....do.....				
Taxes.....do.....				
Other farm expenses.....do.....				



# **ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE**

July 14, 1925

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<i>Farm Management and Cost of Production</i> .....	<div style="background-color: black; color: black;">[REDACTED]</div>
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